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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/039,382 | 10/29/2001 | Edward H. Tegge JR. | GCSD-1170 (51233) | 1988 |

7590

09/25/2003

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EXAMINER

RAHLL, JERRY T

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,382

Applicant(s)

TEGGE ET AL.

Examiner

Jerry T Rahll

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 17, 18, 19, 20, 21 and 24 are objected to because of the following informalities: these claims appear to depend from the incorrect claims. For examination purposes, claim 17 (and claims 18-20 therewith) will be considered to depend from claim 14. Further, claim 21 will be considered to depend from claim 17. Further claim 23 will be considered to depend from claim 22. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 16 refers to an electrical pump source. This is not a commonly used art term and there is no description of such a component or device in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-15 and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,580,698 to Ohtsuki et al. in view of U.S. Patent No. 5,879,531 to Funabashi.

7. Ohtsuki et al. describes an optical signal processing system having a signal-producing laser (11), an optical splitter, with an input optical fiber (13), a stepped optical splitter circuit (14) with a plurality of branching waveguides to a plurality of output fibers (15). While Ohtsuki et al. does not specifically describe an optical pump source for pumping an optical pump signal, such a pump source would inherently be part of the amplifier (13) described (see Columns 9-15 and Figures 1-2). Further, Ohtsuki et al. describes the signal about 1550 nm wavelength (see Columns 15 and 17). Further, Ohtsuki et al. describes the optical splitter circuit having N^m optical fiber outputs, where N is the number of splitter branches, 2 in the example, and m is the number of steps where (See figure 1).

8. Ohtsuki et al. does not specifically describe the optical splitter waveguides being laser ion doped. Funabashi describes an optical branching circuit formed with a plurality of laser ion (erbium) doped optical waveguides (see Column 1 Lines 25-39). Ohtsuki et al. and Funabashi are

analogous art because they are from the same field of endeavor of signal processing with branching waveguides. At the time of invention, it would have been obvious to one of ordinary skill in the art to use the optical branching circuit of Funabashi with the signal processing system of Ohtsuki et al. to increase the amplification provided by the described amplifier (13).

Therefore, it would have been obvious to combine Ohtsuki et al. with Funabashi to obtain the invention as specified in the claims.

9. Ohtsuki et al. and Funabashi do not specifically describe the pumping source as pumping the pump signal in the same direction as the optical signal entering the input fiber. The description of the EDFA amplifier is mute on the pumping direction. It is well-known in the art that an EDFA amplifier may function with pumping in the same or opposing direction of the signal. Therefore, it would have been obvious to one of ordinary skill in the art to pump the pump signal in the same direction as the optical signal entering the input fiber in view of the well-known operation of EDFA's.

10. Ohtsuki et al. and Funabashi do not specifically describe the pump signal wavelength as 980nm or 1480 nm. However, it is art that the pump signal for an EDFA has a wavelength as 980nm or 1480 nm, as noted by the applicant on Page 8 of the specification. Therefore, it would have been obvious to one of ordinary skill in the art to use a pump signal wavelength as 980nm or 1480 nm in view of the well-known operation of EDFA's

11. The method of claims 14 and 17-26 are embodied by the above described devices.

Conclusion

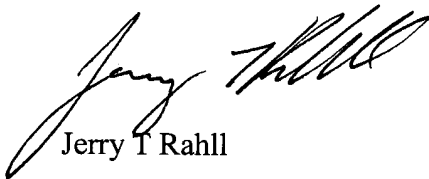
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents Nos. 4,760,580, 5,539,847, 6,269,209 and 6,282,343 describe optical signal processing systems having optical branching circuits.


13. Prior art documents submitted by applicant in the Information Disclosure Statement filed on 29 October 2001 have all been considered and made of record (note the attached copy of form PTO-1449).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T Rahll whose telephone number is (703) 306-0031. The examiner can normally be reached on M-F (8:00-5:30), with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Jerry T Rahll


AKM ENAYET ULLAH
PRIMARY EXAMINER